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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,683	09/05/2006	Young SEO	1-36919	1478

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EXAMINER	
SULLIVAN, DEBRA M	

ART UNIT	PAPER NUMBER
3725	

NOTIFICATION DATE	DELIVERY MODE
10/09/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/591,683	SEO, YOUNG	
	Examiner	Art Unit	
	DEBRA M. SULLIVAN	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 5 depends from a cancelled claim therefore it is unclear if claim 5 is to depend from claim 1, in which case it would be a duplicate of claim 3, or if it is to depend from claim 2. Claim 7 depends from a cancelled claim therefore the dependency of claim 7 is unclear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 5-8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Thoms et al (US Patent # 5,377,520). Thoms et al discloses an apparatus (1') for forming an article from a blank of sheet metal (8) wherein the blank has marginal edge portions, the apparatus comprising a first die member (7') having a cavity (2') formed therein, means for producing a magnetic field (23) disposed adjacent the cavity in the die (7') for restraining movement of the blank of sheet metal (8) [See col. 4 lines 56-60], a second die member (3') for reciprocal movement toward and away from cavity (2') formed in the first die member (7'), means for imparting selective reciprocal movement of the second die member (3') [See col. 4

lines 8-14 and control means for selectively energizing the means for producing a magnetic field to selectively retrain movement of the blank of sheet metal (8) during the forming of the article [See col. 6 lines 16-20, it is noted that it is inherent that the means for producing a magnetic field is controlled by a control means in order to activate and deactivate the magnetic field]. The examiner is interpreting the limitation "during the forming of the article" to encompass the start of the reciprocal movement of the second die member, therefore Thoms et al discloses selectively restraining movement (i.e. limiting all movement) of the blank of sheet metal during the forming of the article.

In reference to claim 2, Thoms et al further discloses the means for producing a magnetic field includes a plurality of electromagnets (23) [See col. 4 lines 56-60].

In reference to claims 3 and 5, the cavity (2') includes an open end, as seen in figure 5.

In reference to claim 6, Thoms et al further discloses the electromagnets (23) are disposed in spaced relation about the open end of the cavity (2'), as seen in figure 5.

In reference to claim 7, it is inherent that the device of Thoms et al includes a control means having a microprocessor for controlling the strength of the magnetic field produced by the electromagnets (23) since the activation and deactivation of the electromagnets (23) corresponds to the movement of the gripper spider (9) and the magnetic field has to be sufficient to maintain the sheet blank (8) in the pre-formed shaped [See col. 6 lines 16-20].

In reference to claim 8, it is inherent that the device of Thoms et al includes a control means that has a source of power coupled to the electromagnets (23) through the microprocessor in order to activate and deactivate the electromagnets (23).

In reference to claim 11, Thoms et al discloses a method for forming an article from a blank of sheet metal (8) including the steps of providing a first die member (7') having a cavity (2') formed therein, disposing a plurality of electromagnets (23) in spaced relation about the cavity (2') in the die member (7') for restraining movement of the blank of sheet metal (8) [See col. 4 lines 56-60], positioning a blank of sheet metal (8) having marginal edge portions over the cavity (2') of the first die member (7'), providing a second die member (3') mounted for reciprocal movement toward and away from the cavity (2') formed in the first die member (7'), providing means for imparting selective reciprocal movement of the second die member (3') [See col. 4 lines 8-14] and selectively energizing the electromagnets (23) to selectively restrain movement of the marginal edge portions of the blank of sheet metal (8) during the forming of the article [See col. 6 lines 16-20; FIG 5]. The examiner is interpreting the limitation "during the forming of the article" to encompass the start of the reciprocal movement of the second die member, therefore Thoms et al discloses selectively restraining movement (i.e. limiting all movement) of the blank of sheet metal during the forming of the article.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3, 5-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thoms et al in view of Tajiri et al. Thoms et al discloses an apparatus (1') for forming an article from a blank of sheet metal (8) wherein the blank has marginal edge portions, the apparatus

comprising a first die member (7') having a cavity (2') formed therein, means for producing a magnetic field (23) disposed adjacent the cavity in the die (7') for restraining movement of the blank of sheet metal (8) [See col. 4 lines 56-60], a second die member (3') for reciprocal movement toward and away from cavity (2') formed in the first die member (7'), means for imparting selective reciprocal movement of the second die member (3') [See col. 4 lines 8-14 and control means for selectively energizing the means for producing a magnetic field to retrain movement of the blank of sheet metal (8) [See col. 6 lines 16-20, it is noted that it is inherent that the means for producing a magnetic field is controlled by a control means in order to activate and deactivate the magnetic field]. Thoms et al discloses the invention substantially as claimed except for wherein the means for producing a magnetic field are activated during the forming of the article. However, Tajiri et al teaches of using electromagnets (4'') disposed about a cavity within a die for the purpose of controlling the movement and frictional forces acting on the blank of sheet metal (1) during the forming of the article. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the control and electromagnets of Thoms et al with the control means and electromagnets as taught by Tajiri et al for the purpose of controlling the movement and frictional forces acting on the blank of sheet metal during the forming of the article.

In reference to claim 2, Tajiri et al further teaches the means for producing a magnetic field includes a plurality of electromagnets (4'') [see abstract].

In reference to claims 3 and 5, Thoms et al further discloses the cavity (2') includes an open end, as seen in figure 5.

In reference to claim 6, the combination of Thoms et al and Tajiri et al further discloses the electromagnets (4'') are disposed in spaced relation about the open end of the cavity (2').

In reference to claim 7, Tajiri et al further teaches the control means has a microprocessor for controlling the strength of the magnetic field produced by the electromagnets (4''), as seen in figure 2.

In reference to claim 8, Tajiri et al further teaches the control means has a source of power coupled to the electromagnets (4'') through the microprocessor, as seen in figure 2.

In reference to claim 11, Thoms et al discloses a method for forming an article from a blank of sheet metal (8) including the steps of providing a first die member (7') having a cavity (2') formed therein, disposing a plurality of electromagnets (23) in spaced relation about the cavity (2') in the die member (7') for restraining movement of the blank of sheet metal (8) [See col. 4 lines 56-60], positioning a blank of sheet metal (8) having marginal edge portions over the cavity (2') of the first die member (7'), providing a second die member (3') mounted for reciprocal movement toward and away from the cavity (2') formed in the first die member (7'), providing means for imparting selective reciprocal movement of the second die member (3') [See col. 4 lines 8-14] and selectively energizing the electromagnets (23) to restrain movement of the marginal edge portions of the blank of sheet metal (8) [See col. 6 lines 16-20; FIG 5]. Thoms et al discloses the invention substantially as claimed except for wherein the means for producing a magnetic field are activated during the forming of the article. However, Tajiri et al teaches of using electromagnets (4'') disposed about a cavity within a die for the purpose of controlling the movement and frictional forces acting on the blank of sheet metal (1) during the forming of the article. Therefore it would have been obvious to one having ordinary skill in the

art at the time the invention was made to substitute the control and electromagnets of Thoms et al with the control means and electromagnets as taught by Tajiri et al for the purpose of controlling the movement and frictional forces acting on the blank of sheet metal during the forming of the article.

2. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Thoms et al or Thoms et al in view of Tajiri et al as applied to claim 8 above, and further in view of Stuart (US Patent # 5,212,977). Thoms et al and Thoms et al in view of Tajiri et al discloses the invention substantially as claimed except for wherein the control means includes an armature means cooperating with the electromagnets and the armature means includes a separate armature with each electromagnet. However, Stuart teaches that it is know in the electromagnetic art to provide a control means having a separate armature (146) for each electromagnet (142) in order to control the current supplied to the electromagnet to achieve the desired holding force [See col. 8 lines 3-13]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the control means of Thoms et al to include a separate armature for each electromagnet in order to control the current supplied to the electromagnets to be sufficient to provide the desired holding force for the blank of sheet metal.

Response to Arguments

Applicant's arguments filed June 15, 2009 have been fully considered but they are not persuasive. Applicant argues that Thoms et al fixes the preformed sheet bar on the lower bearing face until the closing of the tool and therefore does not "selectively restrain movement of the marginal edge portions of the blank of sheet metal during the forming of the article.

The Examiner respectfully disagrees. The examiner is interpreting the limitation "during the forming of the article" to encompasses the entire operation of the apparatus, therefore when the electromagnets of Thoms et al are activated to selectively restrain movement (i.e. limit all movement of the blank of sheet metal) until the closing of the tool this is occurring during the forming of the article as interpreted by the examiner. With regards to the limitation "selectively restrain" as Applicant has pointed out in the arguments restrain is defined as "to hold back or keep in check; control; to limit or restrict", Thoms et al limits the movement of the blank of the sheet during the closing of the tools and therefore meets the "selectively restrain" limitation of the claim.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Sullivan whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Thursday 10am - 8pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached at (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Debra M Sullivan/
Examiner, Art Unit 3725

/Dana Ross/
Supervisory Patent Examiner, Art Unit 3725